

ZANDER DATA SHEET

***FCAW ZANDER WIRE***

**ZANDER DATA SHEET**



에스엠웰텍

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## ZANDER PRODUCT LIST :

ITEM	AWS	DIN
<b>F-308L</b>	AWS A5.22 : E308L T-1	DIN8556 SG X2 CrNi 19 9
<b>F-309L</b>	AWS A5.22 : E309L T0-1/4	DIN8556 SG CrNi 23 12
<b>F-316L</b>	AWS A5.22 : E316L T-1	DIN8556 SG X2 CrNiMo 19 12
<b>F-347L</b>	AWS A5.22 : E347 T0- 1/4	
<b>F-410</b>	AWS A5.22 : E410 T0-4	
<b>F-2209</b>	AWS A5.22 : E2209 T0-4	
<b>F-4370</b>	Special Alloy (Hardsurfacing)	DIN 8656 X10 CrNi 19 9Mn
<b>F-71</b>	AWS A5.20 : E71T-1	DIN SG R1 Cy 4643
<b>F-502Cu / F-502Cu OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-GM145 / F-GM145 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-GM150 / F-GM150 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-SA420 OA / F-SA420 SA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-50 / F-50 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-55 / F-55 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-55Mo / F-55Mo OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-55MoNb / F-55MoNb OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-60 / F-60 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-600 / F-600 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-601 / F-601 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-612 / F-612 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-64 / F-64 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-75Mo / F-75Mo OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-76Mo / F-76Mo OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-700 / F-700 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-87 / F-87 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555
<b>F-DW50 / F-DW50 OA</b>	Special Alloy (Hardsurfacing)	DIN 8555

## F-308L

### CLASSIFICATION

DIN8556 SG X2 CrNi 19 9      AWS A5.22 : E308L T-1  
Special Alloy 1.4316

### GENERAL CHARACTERISTICS

Flux cored wire to weld with shielding gas protection with low carbon for joining of stainless steels applied for all 18/8 type stainless steels at service temperatures from -120°C up to +350°C

### APPLICATION

All Stainless steel welding and joint, Tubes, heat exchangers, piping systems.  
Tanks(vessel tank)

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.56	1.24	19.3	9.82	0.1	0.08	0.020	0.010	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
510	580	38	+20°C : 56

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200~260	22~28
1.6 mm	220-280	22~30

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
Spool B / BS 300 with app. 13-15 Kgs , EN 759  
Spool B 450 with app. 25-30 Kgs , EN 759  
Big spool S 760 with app. 250 Kgs , EN 759  
Drums with app. 150 Kgs or 250-300 Kgs

## F-309L

### CLASSIFICATION

DIN8556SG CrNi23 12 AWS A5.22 : E309L T0-1/4 EN 12073 : T23 12 L R M3 / C3  
Special Alloy

### GENERAL CHARACTERISTICS

Rutile flux cored wire for gas shielded metal arc welding with low carbon, for welding dissimilar steels as stainless steels to low alloyed steels. Also suitable for welding high temperature steels and as buffer layer before hard facing.

### APPLICATION

For repairing of machine parts for civil engineering.  
First layer on construction steels for 18/8 cladding.

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.7	1.4	23.5	13.0	0.1	0.08	0.022	0.008	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
440	580	35	+20°C : 52

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-220	20~26
1.4 mm	200~260	22~28
1,6 mm	220-280	22~30

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F-316L

### CLASSIFICATION

DIN8556 SG X2 CrNiMo 19 12      AWS A5.22 : E316L T-1  
 Special Alloy 1.443

### GENERAL CHARACTERISTICS

Flux cored wire with low carbon for joining Mo containing austenitic stainless steel applied at service temperatures from -120°C up to +400°C

### APPLICATION

In the chemical and petrochemical industries, in refineries, in the food industries and for ship building to weld pipes, tanks, heat exchangers.

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.65	1.10	18.5	12.3	2.60	0.08	0.025	0.010	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
380	520	35	-120°C : 32

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-220	20~26
1.4 mm	200~260	22~28
1,6 mm	220-280	22~30

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F-347

### CLASSIFICATION

**AWS A5.22 : E347 T0- 1/4      EN 12073 : T19 9 Nb R M3 / C3**  
**Special Alloy**

### GENERAL CHARACTERISTICS

**Rutile type flux cored wire to weld with shielding gas protection 18%Cr-8Ni type stainless steel Niobium / columbium stabilised, suited to weld Ti or Nb stabilised stainless steels. The weld deposit is resistant to intercrystalline corrosion for service temperatures up to 400°C**

### APPLICATION(Base Materials)

**Stainless steels for general use:**

UNS	Alloy	EN 10088	Material No	UGINE
S30400	304	X5crni18-10	1.4301	UGINOX 18-9B, D, E
S30403	304L	X2CrNi19-11	1.4306	UGINOX 18-10 L
S32100	321	X6CrNiTi18-10	1.4541	UGINOX 18-10 T
S34700	347	X6CrNiNb18-10	1.4550	

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Fe
0.03	0.9	1.4	19.5	10.5	0.1	0.08	0.5	0.02	0.01	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
450	650	35	-196°C : 34

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200~260	22~28
1.6 mm	220-280	22~30

### FORMS OF DELIVERY

**Spool B / D 300 with app.    13-15 Kgs ,    EN 759**  
**Spool B / BS 300 with app.    13-15 Kgs ,    EN 759**  
**Spool B 450 with app.        25-30 Kgs ,    EN 759**  
**Big spool S 760 with app.    250 Kgs ,      EN 759**  
**Drums with app.                150 Kgs or 250-300 Kgs**

## F-410

### CLASSIFICATION

**AWS A5.22 : E410 T0-4    EN 14700    EN ISO 17633-A : T 13R M3**  
**Special Alloy**

### GENERAL CHARACTERISTICS

**Rutile flux cored wire to weld with shielding gas protection used for cladding and for joining of 410 stainless steels.**  
**Nice bead appearance, self releasing slag, good penetration and high productivity.**

### APPLICATION

**To surface valve seats and to weld ferritic martensitic stainless steels used in the presence of sulphurous gas.**

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	P	S	Fe
0.05	0.6	1.0	12.0	0.4	0.015	0.005	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)
300	500	25

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200~260	22~28
1.6 mm	220-280	22~30

### FORMS OF DELIVERY

**Spool B / D 300 with app.    13-15 Kgs ,    EN 759**  
**Spool B / BS 300 with app.    13-15 Kgs ,    EN 759**  
**Spool B 450 with app.    25-30 Kgs ,    EN 759**  
**Big spool S 760 with app.    250 Kgs ,    EN 759**  
**Drums with app.    150 Kgs or 250-300 Kgs**

## F-2209

### CLASSIFICATION

**AWS A5.22 : E2209 T0-4      EN 17633-A : T22 9 3 N L Z M3**  
**Special Alloy**

### GENERAL CHARACTERISTICS

Flux cored wire electrode wire to weld with shielding gas protection with an austenitic-ferritic microstructure (Duplex).

### APPLICATION

For butt welding and cladding of steels and castings with an austenitic-ferritic structure, which are used orf pumps, vessels, piping systems etc. Attacked by chloride containing solutions. But also for impellers and other components which require high strenth combined with corrosion attack.

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	N	P	S	Fe
0.03	0.8	1.3	22.6	9.0	3.2	0.16	0.020	0.008	base

### MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
670	830	27	-20°C : 40

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200~260	22~28
1.6 mm	220-280	22~30

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs



## F-4370

### CLASSIFICATION

**DIN 8555 MF 8-200-CKNPZ    AWS A5.22 : E307T-2**  
**Special Alloy**

### GENERAL CHARACTERISTICS

Zander F-4370 (Open Arc) is a high alloyed and special alloy, self shielded and slag producing flux-cored wire electrode. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening), anti-magnetic and thermal shock resistant up to 850°C. Depending on the high elongation(40%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joining dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 6 %. (i.e. Manganese-Hardfield-steel).

### APPLICATION

Buffer layers, Impact-proof, forges, cold and hot rolls, Heating rolls, rails, rail points, coarse crusher(jaws), liner, crane wheels. beaters, etc..

### TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Fe	others
0.10	6.0	0.5	19.0	9.0	basis	trace

### HARDNESS

**Welding after 180-200HB                      Work Hardened App    400HB**

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180~220	20~24
1.6 mm	200-260	22~26

### FORMS OF DELIVERY

Spool B / D 300 with app.    13-15 Kgs ,    EN 759  
 Spool B / BS 300 with app.    13-15 Kgs ,    EN 759  
 Spool B 450 with app.        25-30 Kgs ,    EN 759  
 Big spool S 760 with app.    250 Kgs ,      EN 759  
 Drums with app.                150 Kgs or 250-300 Kgs

## F-71

### CLASSIFICATION

**DIN SGR1 Cy4643    AWS A5.20 : E71T-1 (FCAW)  
Special Alloy**

### GENERAL CHARACTERISTICS

**Metal cored wire electrode without slag for welding CO<sub>2</sub> gas or MMA gas protection Shipbuilding, steel and pressure vessel constructions, mechanical engineering and pipe work. Good arc striking and restriking even with cold wire tip, suitable for robot applications. Multi-pass welding without in-between cleaning, excellent gap bridging, high efficiency for economic production**

### APPLICATION

**Construction steels for general use , Tube steels, Ship steels, Steels for Boiler and Pressure Vessels, High strength steels, Cold tough steels**

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	S	P	Cu	Ni	Fe	
0.05	0.35	1.08	0.010	0.016	0.30	0.41	basis	%

### MECHANICAL PROPERTIES OF WELD METAL

**2V-Notch impact test : Temp (— 20°C) 88AKV  
Yield strength : 510Mpa  
Tensile strength : 590Mpa  
Elongation : 27.%**

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-220	20~26
1.4 mm	200~260	22~28
1,6 mm	220-280	22~30

### FORMS OF DELIVERY

**Spool B / D 300 with app. 13-15 Kgs , EN 759  
Spool B / BS 300 with app. 13-15 Kgs , EN 759  
Spool B 450 with app. 25-30 Kgs , EN 759  
Big spool S 760 with app. 250 Kgs , EN 759  
Drums with app. 150 Kgs or 250-300 Kgs**

## F-502Cu / F-502Cu OA

### CLASSIFICATION

DIN 8555  
Special Alloy

### GENERAL CHARACTERISTICS

F-502Cu & F-502Cu OA is a Rutile type flux cored wire electrode welding alloy. Sulphuric acid corrosion resisting steel, self-shielded, slag-free flux cored wire electrode

### APPLICATION

Carbon steel , Sulphuric acid corrosion resisting steel .Low alloy steel., etc

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	S	P	Cr	Cu	Fe	
0.05	0.41	1.27	0.009	0.015	0.80	0.42	basis	%

### MECHANICAL PROPERTIES OF WELD METAL

2V-Notch impact test : Temp(0°C) 66AKV(J)

Yield strength : 565Mpa

Tensile strength : 630Mpa

Elongation : 27.1%

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F-GM145 / F-GM145 OA

### CLASSIFICATION

DIN 8555  
Special Alloy

### GENERAL CHARACTERISTICS

F-GM145 & F-GM145 OA is a Cr+Ni+Mo+Mn alloy Carbon steel die and hot forging die. self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.

The weld metal is tool machining. , Used (Tempering at 500°C)heat treatment.

### APPLICATION

Hot and cold working tools . Carbon steel die(press die) , Hot forging die casting.  
Hot shear blades , Cold and Hot guide

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	S	P	Mn	Cr	Ni	Mo	W+V	Fe	
0.12	1.03	0.02	0.04	1.01	7.68	1.57	2.68	trace	balance	%

### HARDNESS

Welding : 42~44HRC                      Tempering at 500°C : 47~50HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F-GM150 / F-GM150 OA

### CLASSIFICATION

DIN 8555  
Special Alloy

### GENERAL CHARACTERISTICS

F-GM150 & F-GM150 OA is a Cr+Ni+Mo+Mn+V alloy Carbon steel die and hot forging die. self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.

The weld metal is not tool machining. , Used (Tempering at 500°C)heat treatment.

### APPLICATION

Hot and cold working tools . Carbon steel die(press die) , Hot forging die casting.  
Hot shear blades ,

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	Mo	V	Fe	
0.22	1.01	1.20	9.03	1.65	3.65	1.02	basis	%

### HARDNESS

Welding : 47~48HRC                      Tempering at 500°C : 52~53HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F-SA420 OA / F-SA420 SA

### CLASSIFICATION

DIN 8555  
Special Alloy

### GENERAL CHARACTERISTICS

F-SA420 OA & F-SA-20 SA deposit is a martensitic stainless steel used be rebuild steel mill , Roll components. Good wear resistance and provides resistance to fire cracking, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Steel mill roll , Caster roll, Table roll .

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Fe	
0.25	0.75	0.76	13.5	basis	%

### HARDNESS

48~56HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or 250-300 Kgs	

## F- 50 / F-50 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-5-50-PRT

### GENERAL CHARACTERISTICS

F- 50 & F-50 OA is a Ni-Cr –Mo-V-W alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship , Steel mill rolls , Pumps, Impeller screws, Conveyer screws,

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V	Ni	W	Fe	
0.28	1.10	0.89	16.12	1.52	1.029	4.23	1.10	basis	%

### HARDNESS

45-50HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F- 55 / F-55 OA

### CLASSIFICATION

DIN 8555  
Alloy- No : MF-10-60-GR

### GENERAL CHARACTERISTICS

F- 55 & F-55OA is a high C-Cr- alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.  
The weld metal is not machinable.

### APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers,  
Conveyer screws, wear plates, Grinding roller

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	W+V	Fe	
4.40	1,03	2.01	26.3	1.01	trace	basis	%

### HARDNESS

56-60HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
Spool B / BS 300 with app. 13-15 Kgs , EN 759  
Spool B 450 with app. 25-30 Kgs , EN 759  
Big spool S 760 with app. 250 Kgs , EN 759  
Drums with app. 150 Kgs or 250-300 Kgs



## F- 55Mo / F-55Mo OA

### CLASSIFICATION

DIN 8555  
Alloy- No : MF-10-60-G

### GENERAL CHARACTERISTICS

F- 55Mo & F-55Mo OA is a high C-Cr-Mo alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry Dredge ship ,Pumps, Mixer and Dredging parts, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls,

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W+V	B+Ti+Nb	Fe	
4.35	2.47	1.25	26.15	1.15	trace	trace	basis	%

### HARDNESS

56-60HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F- 55MoNb / F-55MoNb OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-10-60-G (Nb)

### GENERAL CHARACTERISTICS

F- 55MoNb & F-55MoNb OA is a high C-Cr-Mo-Nb alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature and abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, IDF Fan,  
Dredge ship ,Pumps, Mixer and Dredging parts, Coal bucket and hoppers ,  
Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller ,  
Crusher rolls,

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W+V	Fe	%
4.35	2.47	1.25	26.15	3.02	3.85	trace	basis	

### HARDNESS

58-62HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F- 60 / F-60 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-10-60-GR

### GENERAL CHARACTERISTICS

F- 60 & F-60 OA is a very high C-Cr alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship, Pumps, Impeller screws, Track hopper, Coal bucket and hoppers ,  
Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller ,  
Crusher rolls,

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	B	Fe	
5.35	0.98	1.03	30.06	0.92	1.02	basis	%

### HARDNESS

58-63HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F- 600 / F-600 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-6-60-GP

### GENERAL CHARACTERISTICS

F- 600 & F-600 OA is a Cr+ Ti+ Mo+ Mn alloy. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship ,Cement crusher roll and Roll tire &.table . Dredging parts, Gravel pumps, Blow bar, Screws, Crusher hammers, Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling ,Roll tire and table, Suction dredger, Inner casing and bucket and impeller, Mixer parts

### TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Mo	Cr	Ti	Fe	
1.80	1.38	0.50	1.42	6.98	4.85	basis	%

### HARDNESS

56-58HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F- 601 / F-601 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-6-60-PT

### GENERAL CHARACTERISTICS

F- 601 & F-601 OA is a self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.  
The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship ,Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers,  
Drive tumblers ,Road Construction, Bucket teeth, Rock processing and  
Recycling ,Roll tire and table, Suction dredger, Inner casing and bucket and  
impeller, Mixer parts

### TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Mo	Cr	V	W	Fe	
0.57	2.90	0.95	1.50	6.57	1.45	1.05	basis	%

### HARDNESS

55-60HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

## F- 612 / F-612 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-6-55RP

### GENERAL CHARACTERISTICS

F- 612 & F-612 OA is a Cr+ Mo+ Mn alloy. self-shielded gas. slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship , Dredging parts, Gravel pumps, , Screws, Crusher hammers, Drive  
tumblers ,Road Construction, Suction dredger, Inner casing and bucket and  
impeller, Mixer parts

### TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Mo	Cr	Fe	
0.52	1.18	0.90	1.52	12.5	basis	%

### HARDNESS

54-56HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

**F- 64 / F-64 OA**

**CLASSIFICATION**

DIN 8555

Alloy- No : MF-10-65-GZ

**GENERAL CHARACTERISTICS**

F- 64 & F-64. OA is a High temperature extreme abrasion resistance, self-shielded, , slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

**APPLICATION,**

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry Dredge ship ,Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers, Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling , Roll tire and table ,Suction dredger, Inner casing and bucket and impeller, Mixer parts

**TYPICAL ALL WELD METAL ANALYSIS**

C	Mn	Si	B	Cr	V	W	Fe	
3.70	0.92	0.83	1.01	21.05	0.72	0.72	basis	%

**HARDNESS**

62-64HRC

**AVAILABLE DIAMETER AND WELDING PARAMETERS**

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

**FORMS OF DELIVERY**

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

## F- 75Mo / F-75Mo OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-10-65-GZ

### GENERAL CHARACTERISTICS

F- 75Mo & F-75Mo OA is a high carbon and high temperature inclusion Nb alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.

The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship ,Slag conveyer screws , Hot sinter breaker , Parts in screening units,  
Mixer parts , Scraper

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V	Nb	W	Fe	
5.25	1.12	0.95	21.80	3.85	0.90	5.89	1.48	basis	%

### HARDNESS

62-64HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs



## F- 76Mo / F-76Mo OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-10-65-GZ

### GENERAL CHARACTERISTICS

F- 76Mo & F-76Mo OA is a high carbon and Cr+Mo+V+Nb+W alloyed, also High temperature extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.

The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship ,Mining and clinker industry, Concrete pumps, Slag conveyer screws ,  
Scraper ,Hot sinter breaker , Parts in screening units, Mixer parts

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V	Nb	W	Fe	
5.31	1.05	0.98	20.50	4.02	1.25	2.50	2.01	basis	%

### HARDNESS

62-66HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or 250-300 Kgs	

## F- 700 / F-700 OA

### CLASSIFICATION

DIN 8555  
Special Alloy

### GENERAL CHARACTERISTICS

F- 700 & F-700OA is a high C-Cr- alloyed, used Extreme abrasion resistance. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

### APPLICATION

Coke oven screen, Pulverizer hammers , Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Wear plate etc

### TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Fe	
5.30	1,10	1.05	34.2	0.02	basis	%

### HARDNESS

63-65HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759  
 Spool B / BS 300 with app. 13-15 Kgs , EN 759  
 Spool B 450 with app. 25-30 Kgs , EN 759  
 Big spool S 760 with app. 250 Kgs , EN 759  
 Drums with app. 150 Kgs or 250-300 Kgs

**F- 87 / F-87 OA**

**CLASSIFICATION**

DIN 8555  
Alloy- No : MF-21-65-RG

**GENERAL CHARACTERISTICS**

F- 87 & F-87 OA is a high carbon ,high temperature , extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is not machinable.

**APPLICATION,**

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry Dredge ship, Dressing tool,Rubber-mixing blades , Mineral wear ,Deep well drilling parts , Auger, Mixer blades and Mixer parts ,Bucket ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper Parts in screening units, , , extreme abrasion resistance etc

**TYPICAL ALL WELD METAL ANALYSIS**

C	Mn	Si	Cr	Nb	V & W	Fe	
5.30	1.10	0.93	25.02	6.91	trace	basis	%

**HARDNESS**

64-66HRC

**AVAILABLE DIAMETER AND WELDING PARAMETERS**

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

**FORMS OF DELIVERY**

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or 250-300 Kgs	

## F- DW50 / F-DW50 OA

### CLASSIFICATION

DIN 8555

Alloy- No : MF-21-65-GZ

### GENERAL CHARACTERISTICS

F- DW50 & F-DW50 OA is a steel –matrix with inserted tungsten carbides (WC) (47~50%) extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.

The weld metal is not machinable.

### APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , , Mine industry  
Dredge ship, Mineral wear ,Deep well drilling parts , Auger, Mixer blades and Mixer parts

Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper  
Parts in screening units, , , extreme abrasion resistance etc

### TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Ni	B	W	Fe	
2.30	1.60	0.20	0.02	47.50	basis	%

### HARDNESS

62-65HRC

### AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1,2 mm	160-190	18~26
1.4 mm	180~220	22~28
1,6 mm	200-280	22~30
2,0 mm	220-310	24~32
2,4 mm	260-320	26~34
2,8 mm	300-380	28~36
3.2 mm	320~450	30~38

### FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or 250-300 Kgs	

# ZANDER DATA SHEET

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